

Abstract

A hermetic closed loop fluid system for controlling temperature of a heat source includes at least one component including at least one heat exchanger in contact with the heat source. The heat exchanger is configured to pass a fluid therethrough, wherein the fluid performs thermal exchange with the heat source. A predetermined amount of the fluid remains within the fluid system for a desired amount of operating time. The desired amount of operating time is preferably at least 10 years. Alternatively, the desired amount of operating time is at least 3 years. The predetermined amount of fluid is preferably ninety percent of an initial amount of fluid. Alternatively, the predetermined amount of fluid is seventy five percent of an initial amount of fluid. Still alternatively, at least fifty percent of the fluid can remain within the fluid system for the desired amount of operating time. The fluid can be a single phase fluid. The fluid can also be a two phase fluid.